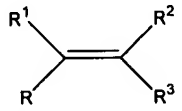
Listing of Claims

Claims 1- 60 (Canceled)

Claim 61 (Currently amended): ~~The apparatus of claim 60, wherein the additive consumption inhibiting compound is a compound~~ An apparatus for electroplating a substrate comprising an electrical power source electrically connected with an insoluble anode and a cathode such that an electrical current can pass through the insoluble anode and the cathode, the insoluble anode and the cathode are in contact with a metal plating bath comprising a salt of a metal selected from the group consisting of copper, gold, silver, palladium, platinum, cobalt, cadmium, chromium, bismuth, indium, rhodium, iridium, and ruthenium, and an additive consumption inhibiting alcohol having a formula as follows:



wherein R, R^1, R^2 and R^3 independently comprise hydrogen; -OH; hydroxy (C_1-C_{20}) linear, branched, or cyclic alkyl; hydroxy (C_2-C_{20}) linear, or branched alkenyl; hydroxy (C_2-C_{20}) linear, or branched alkynyl; hydroxy (C_1-C_{20}) linear, or branched alkoxy; hydroxyaryl; (C_1-C_{20}) linear, or branched alkyl; (C_2-C_{20}) linear, or branched alkenyl; (C_2-C_{20}) linear, or branched alkynyl; aryl; halogen; thienyl; -CN; -SCN; -C=NS; -SH; $-NO_2$; $-SO_2H$; $-SO_3M$; $-PO_3M$; $-P(R^4)$; $-Si(OH)_3$; silyl; silane; aminyl; aminyl halide; hydroxyaminyl; keto; ester; or acyl halide; provided that at least one or R, R^1, R^2, or R^3 is –OH, hydroxy (C_1-C_{20}) alkyl, hydroxy (C_2-C_{20}) alkenyl, hydroxy (C_2-C_{20}) alkynyl, hydroxy (C_1-C_{20}) alkoxy, or hydroxyaryl; R^4 is hydrogen or halogen; and M is hydrogen or an alkali metal~~; or~~

~~R^1 and R^2 are taken together to form a bond; or R^1 and R^2 are taken together along with the atoms to which they are attached to form a 5 to 7 membered carbon ring; or to form a 5 to 7 membered carbon ring fused with one or more five to six membered rings carbon rings; the 5 to 7 membered rings and the one or more five to six membered rings may each contain one or more carbonyls in the ring; or the 5 to 7 membered ring or the one or more five to six membered fused rings may eachcontain a hetero atom to replace a carbon in the ring to form a heterocyclic ring, where oxygen or nitrogen are hetero atoms in the ring; the 5 to 7 membered rings and the five to six membered fused rings may be unsubstituted or substituted; and R and R^3 are as defined~~

~~above; when R^1 and R^2 are taken together to form a bond or ring structure, at least one –OH group is present on the compound~~.

Claim 62 (Currently amended): The apparatus of claim 61, wherein the hydroxy (C_1-C_{20}) alkyl, hydroxy (C_2-C_{20}) alkenyl, hydroxy (C_2-C_{20}) alkynyl, hydroxy (C_1-C_{20}) alkoxy, hydroxyaryl, (C_1-C_{20}) alky, (C_2-C_{20}) alkenyl, (C_2-C_{20}) alkynyl, (C_1-C_{20}) alkoxy, or aryl~~, the 5 to7 membered rings, the five to six membered fused rings, and the heterocyclic rings~~ are substituted with one or more substituents comprising halogen, -OH, -CN, -SCN, -C=NS, -SH, $-NO_2$, $-SO_2H$, $-SO_3M$, $-PO_3M$, $-Si(OH)_3$, silyl, silane, aminyl, aminylhalide, hydroxyaminyl, pentose, hexose, keto, or esters.

Claim 63 (Canceled)

Claim 64 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the additive consumption inhibiting compound comprises from about 0.001 g/L to about 100.0 g/L of the bath.

Claim 65 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the metal plating bath further comprises brighteners, levelers, hardeners, wetting agents, malleability modifiers, ductility modifiers, deposition modifiers, or suppressors.

Claim 66 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the metal plating bath has a pH of from 0 to about 8.0.

Claim 67 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the metal salt comprises copper halides, copper sulfate, copper alkane sulfonate, copper alkanol sulfonate, or mixtures thereof.

Claim 68 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the insoluble anode comprises metals of cobalt, nickel, ruthenium, rhodium, palladium, iridium, or platinum.

Claim 69 (Original): The apparatus of claim 68, wherein the insoluble anode further comprises metals of titanium, zirconium, hafnium, vanadium, niobium, or tantalum.

Claim 70 (Original): The apparatus of claim 69, wherein the insoluble anode further comprises beryllium, calcium, strontium, barium, scandium, yttrium, lanthanum, or rare earth elements.

Claim 71 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the insoluble anode comprises iridium dioxide.

Claim 72 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the cathode comprises a wiring board, an integrated circuit, an electrical contact surface, a connector, an electrolyte foil, a

silicon wafer, a semi-conductor, a lead frame, an optoelectronic component, a solder bump, a decorative article, or a sanitary appliance~~, and the like~~.

Claim 73 (Currently amended): The apparatus of claim ~~60~~ 61, wherein the insoluble anode and the cathode have a current density of from about 1 to about 1000 amps/ft^2.